CLAIMS

What is claimed is:

1. A pixel circuit comprising:

a photodetector connected to a first node;

a dual-driver MOSFET having a gate connected to the first node;

a reset MOSFET having a first leg connected to the first node and a second leg connected to a second node;

an access MOSFET having a first leg connected to a row bus and a second leg connected to the second node;

a row select MOSFET having a first leg connected to the dual-driver MOSFET and a second leg connected to a column bus;

an access supply connected to the row bus;

a source supply connected to the column bus; and

a reset supply connected to a gate of the reset MOSFET;

wherein the MOSFETs all have the same polarity.

2. The pixel circuit of Claim 1, wherein the photodetector is a photodiode.

3. The pixel circuit of Claim 2, wherein the access supply comprises a current source that is a distributed feedback amplifier when connected to the MOSFETs.

4. The pixel circuit of Claim 3, wherein the feedback amplifier is a cascoded inverter.

5. The pixel circuit of Claim 4, wherein the reset supply produces a tapered waveform.

6. The pixel circuit of Claim 5, wherein the source supply comprises an operational amplifier, a bias transistor and a mode transistor.

7. The pixel circuit of Claim 6, wherein the MOSFETs are N-type MOSFETs.

8. An active pixel sensor array having a plurality of pixel sensors, each pixel sensor comprising:

a photodiode connected to a first node;

a dual-driver MOSFET having a gate connected to the first node;

a reset MOSFET having a first leg connected to the first node and a second leg connected to a second node;

an access MOSFET having a first leg connected to a row bus and a second leg connected to the second node;

a row select MOSFET having a first leg connected to the dual-driver MOSFET and a second leg connected to a column bus;

an access supply connected to the row bus, the access supply comprising a distributed feedback amplifier;

a source supply connected to the column bus; and

a reset supply connected to a gate of the reset MOSFET, the reset supply producing a tapered reset waveform;

wherein the MOSFETs all have the same polarity.

9. The pixel array of Claim 8, wherein the source supply comprises an operational amplifier, a bias transistor and a mode transistor.

10. The pixel array of Claim 9, wherein the MOSFETs are N-type MOSFETs.

11. A CMOS image sensor of the type having a plurality of active pixel sensors arranged in rows and columns and connected to row and column buses, the improvement comprising an access supply connected to a column bus, the access supply comprising a current source configured as a distributed feedback amplifier.